

March 14, 2001

Dear Clean Cities Partners:

On March 15, 2000, just one year ago, we held our first, open Clean Cities strategic planning forum. At that time, Clean Cities staff, coalitions, and stakeholders discussed our priorities and the strategies needed to develop a sustainable alternative fuels market:

- \$ Passage of tax and/or other incentives
- \$ Development of self-sustaining niche markets
- \$ Increase in available funding
- \$ Creation of new/improved mandates
- \$ Strengthening of Clean Cities coalitions

Based on your feedback and discussions at the meeting, we began to “chart our course” for the future. Some of the priorities are clearly the responsibility of the Department of Energy (DOE); some are the responsibility of our stakeholders. What is described here is our response to the priorities related to niche markets and strengthened Clean Cities coalitions—those priorities to which DOE’s National Clean Cities Program is best able to contribute.

What became clear as we reviewed all of your suggestions is that there is no “silver bullet” for the alternative fuels market. Progress is hard work and must be achieved one step at a time. The Course we have selected for the two priorities identified above is slow and methodical, but it does guarantee progress. We have worked hard to develop tools and products to help coalitions in marketing efforts with a wide range of niche market fleets. And we have given considerable thought to the training and expertise necessary to build stronger coalitions. I think you will be impressed with the number of new products and opportunities described here.

As we continue the effort begun just a year ago, this document, “Charting the Course for AFV Development and Sustainable Clean Cities Coalitions,” will help guide us along as we continue to chip away at the gasoline/diesel market until we find the balance that is right for this country.

Sincerely,

Shelley Launey, Director
National Clean Cities Program
Office of Transportation Technologies

**Charting the Course
for AFV Market Development
and
Sustainable Clean Cities Coalitions**

March 14, 2001



U.S. Department of Energy
Office of Transportation Technologies
Office of Energy Efficiency and
Renewable Energy

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Section One – Background and Introduction

Goals

The Clean Cities Program has two top priorities – to increase the number of alternative fuel vehicles (AFVs) on the road and to increase the amount of alternative fuel used in those vehicles. To help local coalitions focus their efforts on these priorities, DOE Clean Cities staff, in consultation with stakeholders, developed the following three new long-term goals in 2000:

- 1 million AFVs on the road (using alternative fuel) by 2010,
- 1 billion gallons of alternative fuel used in AFVs annually by 2010,
- 75% of Clean Cities coalitions self-sustaining by 2005.

The AFV and alternative fuel use goals are based on U.S. AFV market growth projections, and assume that fuel prices, legislated incentives (or the lack of), and other societal circumstances will remain relatively unchanged. DOE's Office of Transportation Technologies is currently analyzing fuel displacement goals and may readjust the Clean Cities AFV target for 2010, if it is warranted.

How Close Are We to Meeting Our Goals?

The vehicle and fuel use goals are based on Energy Information Administration (EIA) estimates for the number of AFVs on the road nationwide. According to EIA, there were 430,000 AFVs in 2000. These AFVs are vehicles capable of operating on natural gas, propane, 85% ethanol (E85), 85% methanol (M85) and electricity. *Although the E85 FFV population is estimated to be more than one million, EIA's total AFV estimate includes only the 30,000 FFVs assumed to be using alternative fuels.*

Clean Cities coordinators reported approximately 97,000 AFVs operating in Clean Cities regions in the United States in 1999; the 2001 survey (2000 data) is expected to record a total of 115,000 AFVs in Clean Cities regions in the United States. *It is important to note that the Clean Cities data reflects only those stakeholder AFVs that coordinators have reported to DOE—a subset of the total national data collected by EIA.*

EIA analyses show that AFVs in the United States are increasing at a rate of 7% per year. To ensure one million AFVs on the road using a billion gasoline gallon equivalents (gge) of alternative fuel in 2010, each Clean Cities coalition will have to increase the number of AFVs in its region by 17% each year for the next 10 years and sustain a high level of alternative fuel use in these vehicles (an average of nearly 850 gge per vehicle per year). EIA estimates total U.S. consumption of alternative fuel to be 368 million gge in 2000—or approximately 855 gge per vehicle. Strong, sustainable Clean Cities coalitions will help ensure that these goals are met.

While it is believed that a number of coalitions are already self-sustaining, determining the exact number is difficult. DOE Clean Cities is evaluating the relative success of each coalition and will update coalitions on the progress of the analysis as needed.

The three Clean Cities goals were announced at a national stakeholders meeting in Washington, D.C., on March 15, 2000, and marked the first time DOE Clean Cities staff set specific vehicle and fuel use goals for the national program (previous program goals focused on increasing the number of participating coalitions). The meeting was also an opportunity for stakeholders to provide input on strategies to reach the goals. The strategies were grouped into five main program areas considered critical to AFV and alternative fuel market development.

- Self-sustaining niche markets.
- Strong existing Clean Cities coalitions.
- Increased funding for AFV and infrastructure projects.
- Legislative incentives for AFV purchases and infrastructure development.
- Mandates and alternatives to EPA Act.

Stakeholder input provided at the March 15, 2000 meeting helped direct Clean Cities Program activities in 2000. Recommendations and ideas were used to develop the following strategies, specific to the two program areas in which DOE's Clean Cities Program can most effectively assist local Clean Cities coalitions—self sustaining niche markets and strong, vibrant existing Clean Cities coalitions. Although only two program areas are distinctly addressed in this plan, elements of others, including legislative incentives and funding for AFV infrastructure projects, are woven into several strategies. All of the program areas will be addressed at the national Clean Cities stakeholders meeting in Washington, D.C. on March 14, 2001—a follow-up to last year's meeting.

Section Two – Developing Self-sustaining Niche Markets

Background

DOE's Clean Cities Program supports efforts to significantly expand the use of AFVs and alternative fuels. National and local Clean Cities partners are working with motor vehicle fleets to identify which alternative fuels and AFVs make the most sense when building local and regional AFV markets. Most of these “niche” fleets operate high fuel-use vehicles in small, well-defined geographic areas, which enables shared refueling and maintenance facilities and creates centers of local alternative fuel activity.

Based on coalition reports, Clean Cities Program activities and resources are intended to develop four key niche market activity centers.

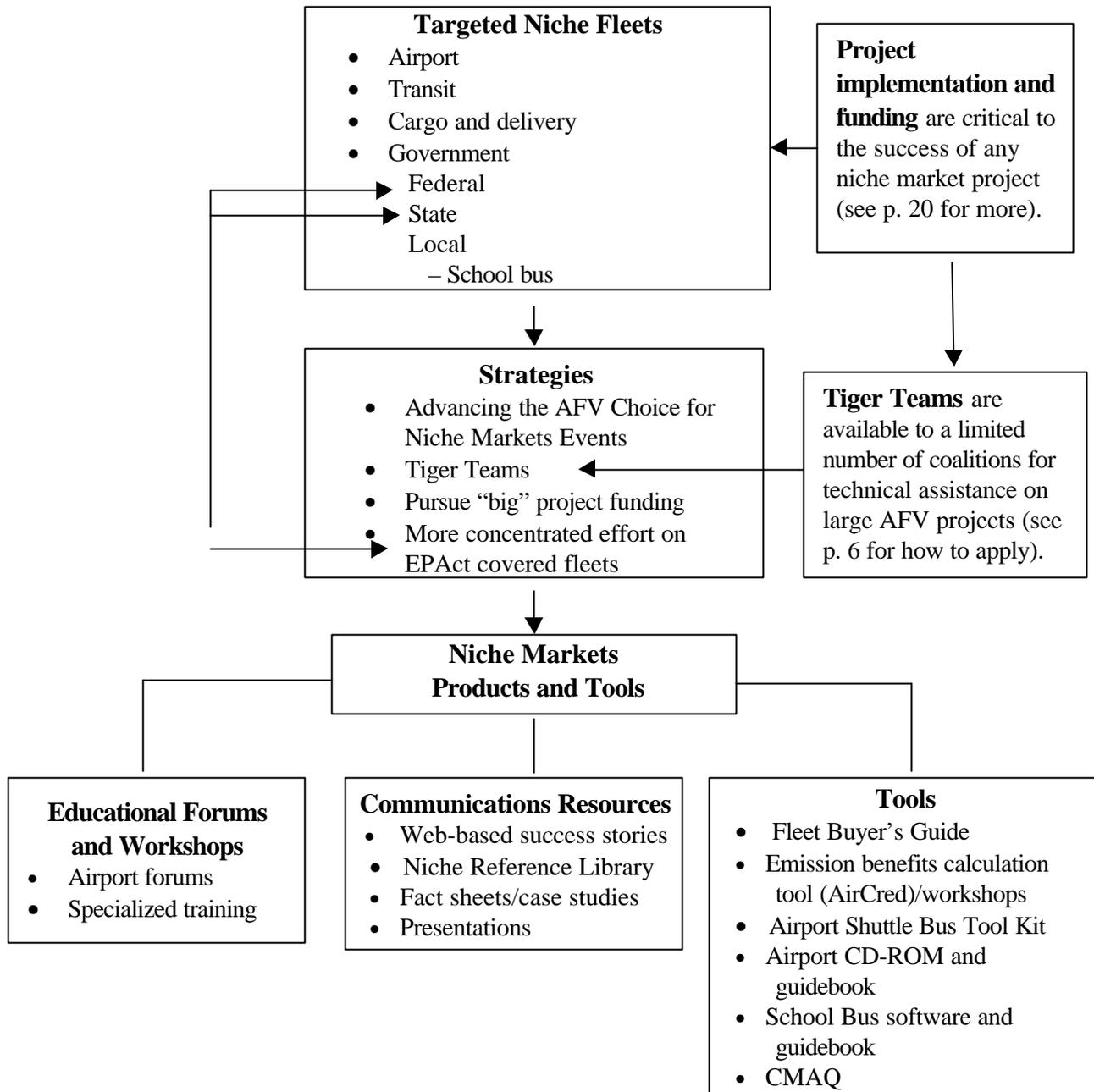
- **Airports:** This niche activity center includes fleet vehicles such as taxis; parking, rental car, and hotel shuttles; and ground service vehicles used by airlines for baggage transport and other airport ground-related functions.
- **Transit:** Among the most visible of all of the niche activity centers, transit fleets, and specifically buses, are high fuel-use vehicles that travel regular routes, are centrally refueled, and are regularly parked at the same facility.
- **Cargo and delivery:** This niche activity center includes on-road, high fuel-use vehicles often associated with airports and goods movement, as well as forklifts, cranes, and other off-road vehicles that are also good AFV candidates.
- **Government:** Federal, state, and local government fleets include high fuel-use vehicles that travel regular routes and are centrally refueled. School buses, law enforcement vehicles, refuse haulers, and municipal support vehicles, often managed by a common fleet operation that can benefit from a shared infrastructure plan, comprise this niche.

Connecting fleets within a particular niche activity center helps ensure greater use of refueling, maintenance, and other related local facilities and thus increases the economic viability of alternative fuel projects. A local government fleet, for example, might consist of street sweepers, school buses, refuse haulers, and administrative vehicles that may share refueling sites and trained technicians.

Highly visible niche vehicles (like the local government or transit vehicles noted above) can showcase the viability of alternative fuels technology to other fleets and the general public and also demonstrate fleets' good will toward the communities they serve.

General Strategy

Through its Hotline and Web site, the Clean Cities Program offers a variety of educational materials and tools that stakeholders may use to promote “the AFV choice.” To help coalitions build niche activity centers and concentrate on high visibility, high fuel-use niche fleets, the Clean Cities Program will focus on three specific strategies (listed in the “Strategies” box below).



Niche Markets Strategy I – Advancing the AFV choice for niche markets

<http://www.cities.doe.gov/advancing.shtml>

Coalitions are encouraged to hold at least one focused “Advancing the AFV Choice” event that targets niche market activity centers. In addition, they are expected to perform the necessary important follow-up activities. These events are often fleets’ first contact with Clean Cities coalitions and can leave an impression that will prompt them to act. DOE will continue to fund coalitions up to \$2,000 per event and expects at least 50 niche market events in 2001. Coalitions may use tools such as the Preferred Fleets Database to help identify local fleets (see description, p. 14), as well as other materials including planned presentations, fact sheets, Fleet Buyer’s Guide, and success stories available on the Clean Cities Web site and from the Clean Cities Hotline.

Follow-up is as important as the event itself and should be part of every coordinator’s post event activities. Phone calls should be made to fleet attendees to determine whether the available vehicles are well suited to their needs, whether available incentives were communicated clearly, and whether refueling issues are still paramount in their decision-making process.

Niche Markets Strategy II – Pursue big project funding and provide project support

To create successful niche markets, Clean Cities coalitions need to pursue projects that are supported by local government and fit into a community’s overall planning. In particular, big niche market projects require large-scale funding from sources such as the Congestion Mitigation and Air Quality Improvement Program (CMAQ), which distributes money to metropolitan planning organizations for projects. To date, the CMAQ program has provided more than \$270 million to fund at least 210 AFV projects. With support from a DOE grant, the Environmental and Energy Study Institute (EESI) is creating a national database of CMAQ-funded alternative fuel projects. The Federal Highway Administration (FHWA), which funds the CMAQ program, gives state and local governments broad discretion in how they prioritize and report their CMAQ funds spending. As a result, the way in which local governments prioritize and assess CMAQ projects varies greatly. Moreover, we find that state and local governments have different methods for maintaining CMAQ spending records. As such, the national data collected by FHWA has serious limitations for analyzing national trends. The EESI CMAQ database is designed to overcome these limitations and enable a better understanding of how the CMAQ program is being used for alternative fuel projects.

New funding sources include AIR 21, which will provide \$20 million specifically to airport AFV projects. Obtaining grants through other programs requires Clean Cities coalitions to build relationships and significant community support. In addition, successful projects also require strict attention to design and standards as well as identification of suitable vehicles and alternative fuels technologies. DOE will continue to provide Clean Cities coalitions with tools to help coalitions acquire funds from programs such as CMAQ and AIR 21.

Niche Markets Strategy III – Tiger Teams

The Clean Cities Program’s new Tiger Teams are available to help coalitions overcome obstacles to deploy AFVs or build refueling stations. DOE has assembled teams of experts from across the country

and who are ready to provide local assistance to coalitions with specific technical problems in AFV niche market applications. Tiger Team members have expert experience in all alternative fuels, as well as light-, medium-, and heavy-duty AFV applications. DOE will deploy teams to assist coalitions with technical problems that may be common to numerous Clean Cities coalitions and with solutions that may help fleets across the country. Tiger Teams will work directly with Clean Cities coordinators and stakeholders so that everyone learns and benefits from the process. Clean Cities coalitions must demonstrate that all appropriate efforts have been made at the local or regional level to solve the problems before asking for Tiger Team assistance. Tiger Teams can help with the following types of projects:

- **Technical problem solving (vehicle operations)** – Clean Cities can request assistance with problems involving vehicle performance or drivability, safety issues, maintenance, driver acceptance, lack of training, or AFV use at specific sites.
- **Technical problem solving (infrastructure operations)** – Clean Cities can request assistance with problems involving fueling station design and siting issues, interaction with alternative fuel providers and fire safety code officials, fuel station performance and maintenance requirements, and user/operator training, etc.
- **Evaluation of potential opportunities** – Clean Cities coalitions working to develop complex AFV projects (transit, airport, etc.) may request technical assistance from Tiger Teams when expertise is not available from local or regional resources. The Tiger Team experts can help evaluate local market conditions pertinent to the project, conduct a technical assessment of infrastructure and stakeholder capabilities or needs, and determine project feasibility. For viable projects, the Team could help the coalition develop an AFV action plan with specific action steps and stakeholder responsibilities.

Clean Cities coalitions may apply for Tiger Team assistance through the Clean Cities Web site. A committee will review the applications and will notify the appropriate DOE Regional Office and the coalition's primary point of contact of its decision.

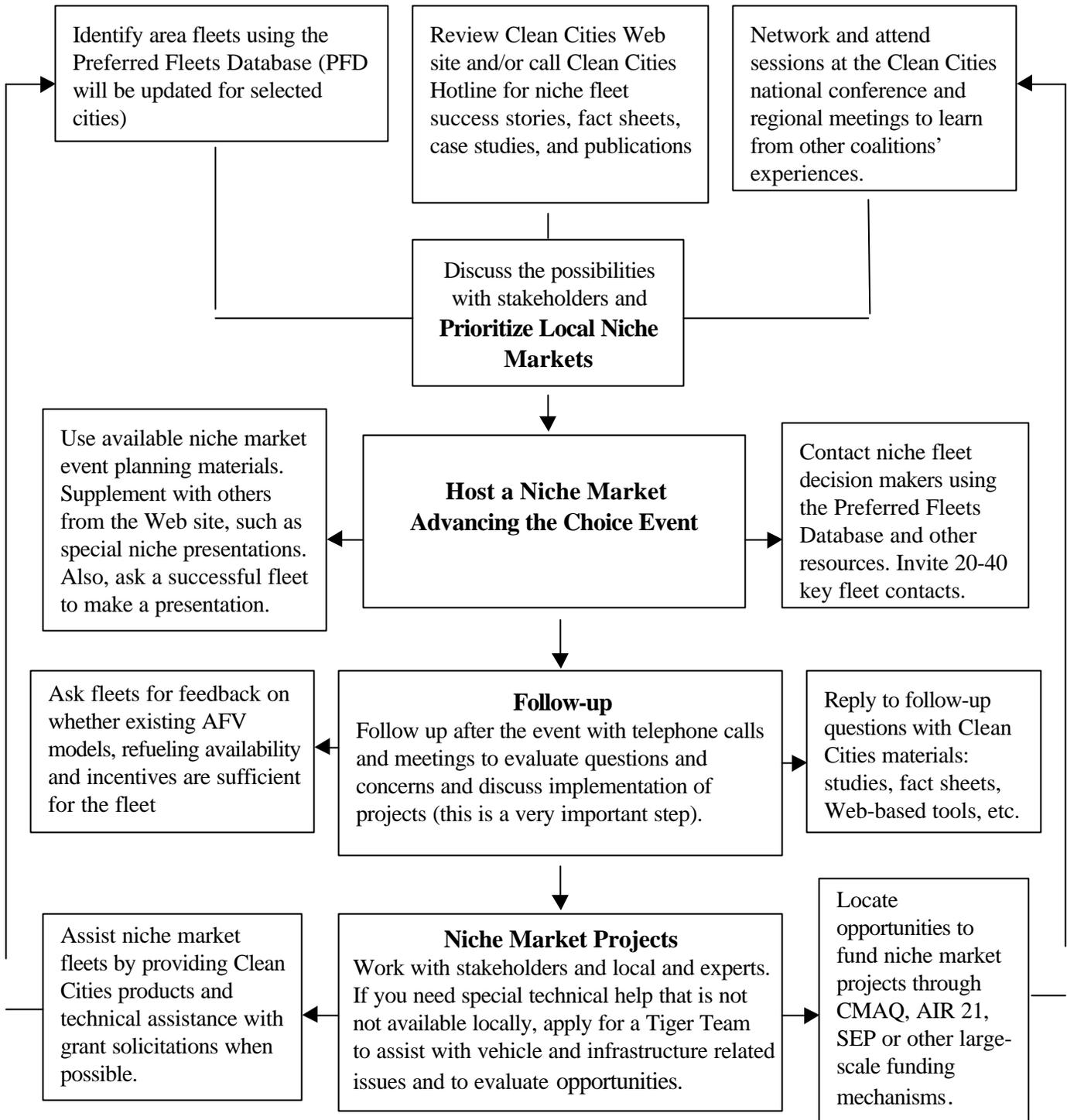
More information is available at <http://www.cities.doe.gov/tiger.html>

Niche Markets Strategy IV – Enhance Federal and state EPCAct compliance activities

Clean Cities coalitions are encouraged to work with Federal and state fleets to increase alternative fuel use and local refueling site throughput and build coalition membership. EPCAct does not require state fleets to use alternative fuel, although some have taken initiative to do so. Federal fleets must begin to increase alternative fuel use in vehicles to comply with Executive Order 13149, signed in April 2000, which requires Federal AFVs to use alternative fuel more than 50% of the time by 2005 (see p. 11 for more information on this strategy).

Steps Coalitions Can Take to Develop Niche Markets

The flow chart below outlines the steps to develop niche markets and highlights the tools, products, and assistance available to Clean Cities coalitions.



Targeted Niche Fleets

Airports

Clean Cities coalitions identified airports as a niche market with significant potential for successful alternative fuel projects. From ground support vehicles to hotel shuttles, airports offer a variety of alternative fuel applications.

- **Ground support vehicles** – In a May 1999 report called “Technical Support for Development of Airport Ground Support Equipment Emissions Reductions,” the U.S. Environmental Protection Agency (EPA) estimates the population of ground support equipment at U.S. airports (see table 1). Ground support equipment includes off-road vehicles such as airport pushback tractors, baggage tugs, baggage belt loaders, maintenance trucks, deicers, and other airport equipment. On-road equipment includes pickup trucks, vans, and cars used for airside operations.

Table 1. Airside Ground Support Equipment Vehicle Population

Vehicle Population	Gasoline	Diesel	Propane	Electric	Total
Off-road	17,700	14,200	3,800	2,900	38,600
Light-duty on-road	5,020	40	200	0	5,260
Heavy-duty on-road	170	120	0	0	290
Total	22,890	14,360	4,000	2,900	44,150
Vehicle Fuel Use (thousand gge)					
Off-road	51,860	52,300	8,560	N/A ¹	112,720
Light-duty on-road	1,720	14	72	0	1,806
Heavy-duty on-road	430	230	0	0	660
Total	54,010	52,544	8,632	0	115,186

¹The EPA report did not provide energy use for these vehicles.

Off-road vehicle fuel use estimates can be determined from information in the EPA source report, which provides fuel use factors (in gallons per hour) and usage hours for each type of off-road ground support equipment vehicles. On-road vehicle fuel use estimates were determined by assuming that these vehicles have average fuel economy similar to other on-road cars, light trucks, and buses. Further, cars and light trucks were estimated to travel about 6,000 miles per vehicle year (about half of the nationwide light-duty vehicle average); heavy-duty support vehicles (all buses) were assumed to travel about 10,000 miles per year (about one-third of the nationwide transit bus average).

- **Shuttles** – In February 2001, Edwards & Kelcey reported the number of airport shuttles operating at the 50 largest airports in the United States, which account for more than 75% of the air passenger movement in the country. Edwards & Kelcey conducted an in-depth study of the airport shuttle populations at four airports (Baltimore-Washington, Reagan National, Dulles, and Philadelphia) to determine the average population and average annual mileage of airport shuttles in a variety of categories (hotel, rental car, parking). These average populations for these four airports were extrapolated to the 50 largest airports to obtain the total shuttle population at these airports. Fuel

economy estimates were applied to determine total fuel use. The results are presented in table 2 below.

Table 2. Shuttle Buses

Shuttle Type	Number of Shuttles	Total Fuel Use (million gal)
Door-to-door	7,500	44
On-airport (heavy-duty)	2,500	28
Off-airport parking (heavy-duty)	2,000	11
Hotel (light-duty)	2,250	6
Rental car (heavy-duty)	2,000	11
Regional (heavy-duty)	300	3
Airside (heavy-duty)	400	3
Total	16,950	106

- Taxis at airports** – According to Edwards & Kelcey, approximately 590 million passenger arrivals and departures occur at the 50 largest airports. It is estimated that about 10% of those passengers (about 160,000 people) will need a taxi to travel either to or from the airport. According to a study by the National Renewable Energy Laboratory (NREL), each taxi serves about 13 passengers a day—and therefore, approximately 12,000 taxis will be needed to serve those airport passengers. The NREL study indicates that taxis use approximately 4,100 gallons of fuel yearly, so these 12,000 taxis would use a total of 49 million gallons of fuel yearly.

Nearly every Clean Cities region has a local airport and DOE Clean Cities offers a number of tools to help create a successful alternative fuel effort. Coalitions are encouraged to meet with airport personnel such as fleet managers, environmental officials, and other decision makers and to hold an Advancing the AFV Choice event specific to airports. DOE Clean Cities has co-sponsored several forums to reach key airport decision makers and has also funded a CD-ROM and a manual to guide airport fleet decision makers through the process of implementing alternative fuel projects. The guide and CD-ROM will be available to coalitions through the Clean Cities Hotline at 800-CCITIES. In addition, a number of DOE Clean Cities niche market communications tools such as airport-focused fact sheets and case studies are available to stakeholders via the Clean Cities Web site. A shuttle bus tool kit is also available to coalitions developing airport shuttle bus projects. More detailed descriptions of these airport-related products are described in the next section (p. 12).

Transit

Another important niche is public transit. The American Public Transportation Association tracks a variety of data on the buses used in public transportation in the United States. Using information provided by several different transit agencies, Clean Cities calculated average fuel use, as shown in table 3.

Table 3. Transit bus information

Transit Bus Size	Number of Buses	Total Fuel Use (million gal)
Less than 35 feet	11,000	43
35-40 feet	13,600	119
More than 40 feet	50,000	500
Total	74,600	662

Transit buses may be the most visible of all niche fleets and consume more fuel than most other niche market vehicles. Transit activity centers can also include an entire fleet of support vehicles, such as pickup trucks, vans, specialized maintenance vehicles, and often large numbers of police or security patrol cars, which can use the same alternative fuel refueling infrastructure. All of the major transit motor coach suppliers now offer an alternative fuel option. Transit fleets across the country operate thousands of alternative fuel buses; more than 20% of all new transit buses ordered each year use alternative fuel. Some agencies have even committed to purchasing only AFVs. In addition to fact sheets and other technical publications, the Clean Cities Program provides specialized training and other technical assistance either directly or through its Tiger Teams, as needed. In addition, DOE has partnered with the natural gas industry to create an AFV Transit Users' Group, which meets regularly to discuss technology updates, maintenance issues, and training needs.

Cargo and Freight Delivery

Other fleets sometimes associated with airport activity centers, such as cargo and freight delivery, comprise another target alternative fuel vehicle niche. The Census Bureau conducts a vehicle inventory and use survey, known as VIUS, every five years, with the most recent survey providing data for 1997. This survey provides data on the physical and operational characteristics of the U.S. privately owned truck population, including both light- and heavy-duty vehicles. Extrapolations of the VIUS data yielded the information shown in table 4 below.

Table 4. Freight/Delivery Truck Information

Truck Size	Number of Trucks	Total Fuel Use (million gal)
Light-duty	4,800,000	5,000
Medium-duty	160,000	300
Heavy-duty	140,000	520
Total	5,180,000	5,820

Although Clean Cities' focus is usually on highway vehicles, high fuel-use off-road vehicles, such as lift trucks, loading dock cranes, and cargo tugs, are often integral to cargo and freight delivery and can help justify the initial infrastructure investment and ensure the sustainability of the alternative fuel niche. Moreover, heavy-duty trucking depots with alternative fuel powered tractor-trailer rigs have been the backbone of several clean transportation corridor projects that DOE has helped to support in Texas

and California. These anchor fleets stimulate infrastructure development between activity centers and enable increased mobility of other AFVs operating in the region. DOE publications highlighting these niche success stories, which may offer a model for interested fleets to follow, are available from the Clean Cities Hotline and Web site. In addition, projects that support AFV purchases or infrastructure to support AFV cargo/delivery fleets can compete for direct DOE State Energy Program Special Projects (SEP) funding.

Government

- **Federal fleets:** In 1999, Federal fleets acquired 17,000 AFVs, bringing the total number of Federal AFVs to 42,000. The Federal government will likely increase its AFV acquisitions in response to Executive Order 13149, “Greening the Government Through Federal Fleet and Transportation Efficiency,” which requires Federal agencies to reduce their petroleum consumption by 20% by 2005. Moreover, it requires Federal fleets to use alternative fuel more than 50% of the time by the end of 2005. Clean Cities coalitions are encouraged to identify local Federal fleets, discuss compliance strategies, and work with them to develop needed refueling infrastructure and increase their use of alternative fuel. Coalitions may wish to hold a Federal fleet-specific Advancing the AFV Choice event. Under the AFV USER pilot program, fuel providers in six cities—Salt Lake City, Denver, San Francisco, Albuquerque, Minneapolis/St. Paul, and Melbourne/Titusville (Florida)—have agreed to make publicly accessible refueling available to locally concentrated Federal and private fleets. The program, co-sponsored by DOE and the U.S. General Services Administration (GSA), recently awarded \$300,000 to fuel providers in those areas to fund infrastructure development.
- **State fleets:** States add more than 5,000 AFVs to their fleets each year to comply with EPA Act requirements. To date, EPA Act-mandated state fleets operate about 25,000 AFVs in metropolitan areas around the country. Current EPA Act mandates, however, do not require alternative fuel use, and since many state fleet AFVs are bifuel and flexible fuel vehicles, many do not use alternative fuel. States, therefore, offer Clean Cities coalitions a significant opportunity. While some states have authorized alternative fuel refueling sites or policies mandating alternative fuel use, others offer no assistance or encouragement. DOE is working with state government leaders to help their fleets use more alternative fuel and plans to publish examples of what some states have done to encourage alternative fuel use in the Fleet Buyer’s Guide database on the Clean Cities Web site. Clean Cities coalitions are strongly encouraged to learn state policies, as well as the location of state vehicles and existing infrastructure to help increase alternative fuel use, and coalitions with large state fleet vehicle populations may want to hold specific Advancing the AFV Choice events for state fleets. Other activities coalitions can pursue include work with state-sponsored driver training programs to include specific training on AFVs and alternative fuel refueling, and work with states to ensure the state bid list includes as many AFVs as possible, as municipalities sometimes acquire vehicles through the state system.
- **Local government fleets:** Local government fleets include refuse haulers, street sweepers, law enforcement vehicles, public works utility vehicles, school buses, and other niche market vehicles totaling more than two million vehicles nationwide. In addition, local fleet procurement guidelines are often closely linked to State fleet purchasing patterns. Many local government fleets actually purchase their vehicles off state bid lists, rather than a separate competitive procurement process, which means local government AFV fleet choices are strongly influenced by State fleet preferences.

Clean Cities coalitions can often help coordinate such shared fleet programs between government agencies.

- **Local government (school buses):** In 1999, *School Bus Fleet*, an industry publication, reported the highest school bus acquisition ever—42,341 vehicles, or 7.3% of the total 582,470 school buses on the road. These school buses consume approximately 698 million gallons of fuel per year. School buses—highly visible, high fuel-use vehicles that operate in a small geographic area—are part of a locally based activity center that can help sustain alternative fuel refueling stations. To showcase alternative fuel school bus technology, DOE has funded a school bus educational software program for Clean Cities coordinators and fleet decision makers. The software, which contains a fleet feasibility analysis tool and other materials, was developed using a survey of alternative fuel school bus fleets that helped determine critical success factors. The software has been presented at Clean Cities regional events and workshops, and will soon be introduced to fleets. Coordinators seeking more information can call the Clean Cities Hotline at 800-CCITIES.

Niche Markets Products and Tools

Educational Forums, Workshops, and Training

- **Airport forums:** DOE is offering a limited number of educational airport forums to introduce airport and airline decision makers and other stakeholders to alternative fuels. Forums focus on funding, vehicle, and infrastructure issues, and feature ride and drive events, exhibits, and success stories. A forum was held at John F. Kennedy Airport in New York City in July 2000 and Dallas in February 2001. Another forum will be held in the Washington, D.C. area in summer 2001, and other events may be scheduled as needed. The airport forums serve as models that may be duplicated for other niche markets such as transit and local governments. Check the Clean Cities Web site periodically for more details.
- **Specialized training:** The Clean Cities Program will continue to work closely with industry stakeholders to identify special AFV training needs and determine where appropriate training is available. Possible topics include training for mechanics and fleet operations personnel as well as drivers, general company employees, local fire or safety code officials, executive management of organizations using AFVs, and community leaders who need to know more about AFVs. DOE will work closely with the National Alternative Fuels Training Consortium (NAFTC) and other training resources to ensure that specialized training is available. In some cases, the Tiger Team experts may be used to provide technical training. Whenever possible, training materials and publications will be posted on the Clean Cities Web site. In addition, an AFV training resource guide will be developed and posted on the Web site for coalitions to reference.
- **CMAQ and air quality planning training:** In partnership with FHWA and the National Highway Institute, DOE's Clean Cities Program is developing two courses for state and local departments of transportation and air quality, metropolitan planning organizations, and community groups, such as Clean Cities coalitions. The first course is entitled, "The CMAQ Program: Purpose and Practice," will explain the underlying principles and eligibility requirements of the CMAQ program and provide overviews of project evaluation and selection practices. The second course, "The Implications of Air Quality Planning on Transportation," provides an overview of air quality planning, including

requirements, processes, interactions with and implications for transportation planning and project development. Both courses are expected to be available in the fall of 2001.

Communication Products and Resources

(All of the products described below are available through Clean Cities Web site and Clean Cities Hotline—coordinators will be notified of new products monthly).

- **Success stories** (<http://www.ccities.doe.gov/success.shtml>): Over the past few years, the Clean Cities Program has published numerous success stories about AFV fleets. The Clean Cities Web site now features a niche market success story section, which provides successes according to niche activity center and fleet type, as well as a form for fleets to contribute their own success story. Each success story includes contact information so coordinators or fleets interested in learning details can call the expert directly.
- **Niche reference library**: Many large studies covering a broad range of technical niche market areas, from alternative fuel transit buses to neighborhood electric vehicles, are available from a variety of sources. During calendar year 2001, DOE will compile the studies into a niche market library on the Clean Cities Web site. The studies will also be available through the Clean Cities Hotline.
- **Fact sheets and case studies**: Last year the Clean Cities Program created a fact sheet that countered long-time rumors and myths about compressed natural gas (CNG) transit buses. DOE Clean Cities will continue to develop fact sheets and case studies on other hot topics, post them on the Clean Cities Web site, and distribute them through the Clean Cities Hotline. A case study on alternative fuel use at airports was released in February 2001. A case study on SuperShuttle, a successful airport AFV shuttle fleet, will be released in May 2001, and a fact sheet on biodiesel will soon be available. New niche market case studies may include refuse haulers and delivery trucks.
- **Niche market presentations**: Niche market presentation materials for coalitions to use at Advancing the AFV Choice events or other niche market meetings will be available on the Clean Cities Web site.

Tools

- **Fleet Buyer's Guide** (<http://www.fleets.doe.gov>): The interactive Fleet Buyer's Guide was developed in 1998 as a point of sale tool. It walks fleet managers and others through the decision-making process of acquiring an AFV, including identifying the appropriate vehicle make and model, locating dealerships, determining local refueling availability, using available incentives—and ultimately calculating the cost of each vehicle. The guide now includes information on medium- and heavy-duty AFVs and advanced technology vehicles and features a link to an emissions Web page (see below for AirCred description). By the end of fiscal year 2001, the guide will include manufacturers' ordering windows and production schedules, neighborhood electric vehicle information, and a geographic information analysis or trip planner for locating AFV fueling sites along designated routes.

- **AirCred Tool: calculating alternative fuel vehicle emission benefits for state implementation plans (SIPs)** <http://www.fleets.doe.gov> – look under “Emissions Information”): DOE and the U.S. Environmental Protection Agency (EPA) have worked with the Argonne National Laboratory to design a model that calculates the emissions benefits of AFVs. The Web-based “AirCred” tool guides users through calculations to quickly determine the emission benefits from AFVs. Calculating emissions benefits allows fleet managers and Clean Cities coordinators to show just how much they are helping the environment by using AFVs; specific emissions benefits also help states and local governments develop state implementation plans (SIP), trading programs, or voluntary mobile emission reduction credit reductions programs. The AirCred applies to more than 65 Clean Cities coalitions in the United States (except for those in California) and can estimate how much ozone precursor emissions can be reduced by driving late-model AFVs (model year 1998 and newer) in and around those specific areas. Last year, DOE and EPA sponsored workshops to teach stakeholders how to use the tool. In 2001, the AirCred tool will be expanded to cover cold season carbon monoxide and particulate matter reduction credits. The AirCred tool will be a part of the training classes to be offered by the National Highway Institute (see p. 12).
- **AFV Airport Shuttle Bus Tool Kit:** A tool kit has been assembled to aid those seeking to increase the use of AFVs in airport shuttle applications. The kit includes a guide that leads coalitions through exercises to identify a local champion for shuttle applications, as well as marketing strategies, case studies, and manufacturer information. A special Tiger Team will be devoted to helping 22 coalitions develop this niche market at local airports.
- **Preferred Fleets Database:** DOE created a computer-based, customer identification system for each designated Clean Cities coalition. The Preferred Fleets Database (PFD) is based on the local yellow and white pages and draws upon a variety of databases to identify potential stakeholders and alternative fuel users. The PFD also enables coordinators to custom-design mailing lists and merge the lists with form letters. For more information, contact your DOE Regional Clean Cities manager.
- **CMAQ database:** A CMAQ database is under development to analyze alternative fuel projects that have been funded by the CMAQ program. The Microsoft Access database will be available to Clean Cities coordinators as well as DOE and FHWA program managers (see p. 5).

Guidebooks

- **Airport:** Clean Cities coalitions also have a guidebook to help them work successfully with local airports on AFV projects. The guidebook, available through the Clean Cities Web site, provides lessons learned and success stories about completed and ongoing airport AFV projects.
- **School Bus :** A new school bus guidebook and educational software program to help school district decision makers build successful alternative fuel school bus programs is also available on the Clean Cities the Web site (see p. 11).

Section Three – Building Stronger, Sustainable Coalitions

Background

At a recent Clean Cities regional meeting, a group of coordinators debated the question, “What is a coordinator?” They viewed themselves as “multi-taskers,” taking on many roles, including facilitator, marketer, motivator, grant writer, organizer, researcher, liaison, mediator, public affairs specialist, manager, and fundraiser. Most coordinators ultimately feel responsible for holding their coalitions together and making things happen. Such expectations are difficult for any full-time employee to fulfill—and 85% of Clean Cities coordinators are only part-time.

Clearly, a strong, full-time Clean Cities coordinator is the glue that holds together a successful coalition. Two additional factors also characterize the most successful coalitions –

- Strong fuel provider involvement,
- Strong state and local incentives or programs.

To be sustainable, Clean Cities coalitions must have strong leadership and significant, quantifiable, stakeholder commitments. They must financially support themselves using sources such as membership dues, grants, and community support. They must generate grassroots support through community outreach, special events, and educational programs. Coalitions with an active board of directors composed of community leaders provide coalitions with long-term strength and help sustain the group’s momentum—even if a strong coordinator leaves. Stakeholder commitments are critical to coalition sustainability since they are ultimately responsible for the placement of more AFVs in the community and the construction of more refueling sites for those vehicles.

The planning and execution of AFV projects is a key to success and sustainability. Successful coalitions are continually executing projects and planning new ones. Nothing piques stakeholder interest and commitment in a coalition as much as the formulation, funding, and implementation of projects.

With input from coalitions, DOE identified the following elements as essential to build self-sustaining coalitions:

- Strong leadership, which depends on –
 - Coalition continuity,
 - Strong local commitments,
 - Local political support,
 - A strong, outspoken coordinator or other champion,
 - Effective organizational structure.

- Stakeholder commitments in the following areas:
 - Investment in AFVs and refueling infrastructure,
 - Knowledge of available sources of funding and incentives,
 - Human resources,
 - Technical AFV and infrastructure expertise,
 - Industry partnerships,
 - Public relations and marketing expertise,
 - Provision of alternative fuel and AFV educational opportunities.

General Strategy

Stakeholders must work together to build a self-supporting coalition. DOE Clean Cities continually looks for effective ways to help more coalitions become sustainable and to address their needs for education, training, and funding opportunities.

While the Clean Cities Program already provides coalitions with resources including training, traditional and new funding mechanisms, conferences, networking opportunities, alternative fuels data, and educational materials, the program recognizes the need to continue adding to this list of products and tools.

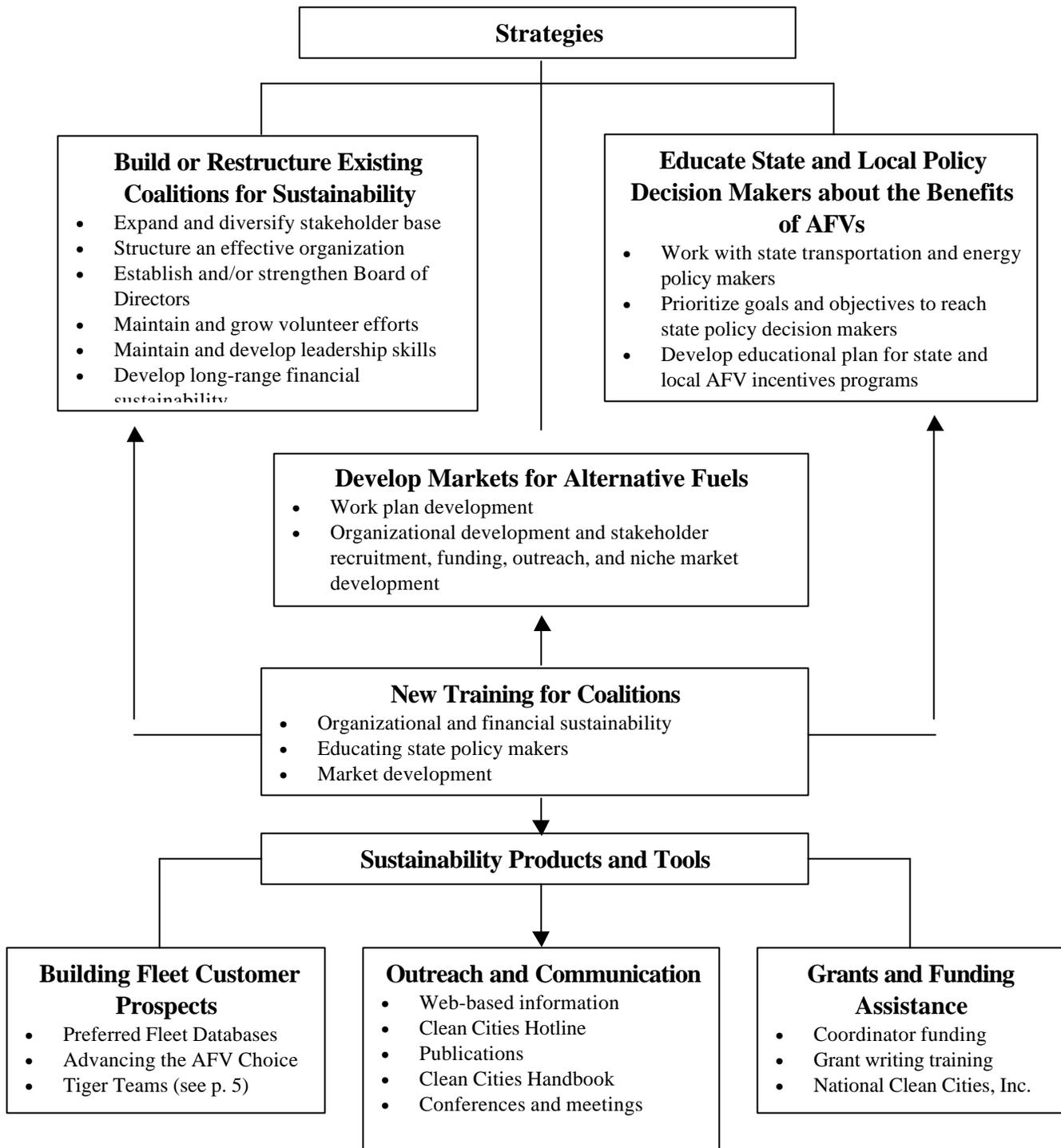
The next section outlines three new strategies as well as training opportunities, including the following:

- **Building and restructuring existing coalitions for sustainability:** A new workshop series will help coalitions organize themselves to maximize their effectiveness. Another major emphasis will be to create long-term plans for financial sustainability by diversifying funding resources.
- **Educating state policy makers on AFVs:** Coalitions are finding that state legislative and regulatory incentives greatly increase their stakeholders' opportunities for long-term success. DOE will provide training to coalitions interested in educating state policy makers about the benefits of AFVs.
- **Developing AFV Markets:** DOE is offering workshops to new coalitions interested in learning how to become successful and self-sustaining. These hands-on workshops teach coordinators and stakeholders how to develop a comprehensive market plan and effectively use local resources and programs.

The Clean Cities Program continues to offer funding for coordinator positions through the DOE State Energy Program/Special Projects (SEP) grants. In addition, DOE will continue to provide funds to coalitions for Advancing the AFV Choice events and Tiger Teams.

Clean Cities also offers myriad products and tools, including Web-based information such as the Fleet Buyer's Guide. Other tools and services are available through the Clean Cities Hotline, which answers stakeholder questions and fields requests for specific documents. The annual National Clean Cities Conference and Clean Cities regional meetings provide stakeholders with networking opportunities and act as a springboard for ideas and new information.

Sustainability Strategies and Products



Strategies

Building Sustainable Coalitions Strategy I – Build or restructure to sustain coalitions

To be truly effective and long lasting, Clean Cities coalitions must attract diverse stakeholders and strong community leadership, assemble an active board of directors, obtain extra help from volunteers, and develop and maintain strong leadership skills. In addition, each coalition must have a long-term operating plan with a budget to finance operations and activities. In 2001-2002, DOE Clean Cities will provide training to help coalitions increase their effectiveness and maximize their abilities to work with fleets, foundations, and other funding sources. Workshops will be held in all six DOE regions. Details are provided below.

- **Building stakeholder diversity and an effective coalition:** Effective coalitions have a diverse base of stakeholder support, drawn from all areas of the community. Coalitions must include stakeholders such as fuel providers, local and state governments, and private fleet operators, as well as automotive dealers. Others can include local metropolitan planning organizations, large corporations, public relations firms, nonprofit organizations, airport management, universities, and local fire departments. The Clean Cities organizational training workshops will help coordinators understand how to attract these stakeholders, effectively use their expertise, and keep them motivated to continue participating in coalition activities.
- **Organizing a successful Board of Directors :** A thriving board of directors, composed of individuals with diverse backgrounds beyond alternative fuels, can make an enormous difference in building a sustainable coalition. Board members often donate money, actively promote the organization, and solicit funds on its behalf. Strong boards have members that stay more than one term and provide organizational continuity. They take an active part in setting goals and objectives and evaluating coalition progress. The Clean Cities training will discuss ways coordinators can attract high-quality board members, keep them active, and work effectively with the board.
- **Maintaining and growing an active base of volunteers :** Many Clean Cities coalitions do not have full-time coordinators and have no administrative or other day-to-day support for business and activities. Some nonprofits have successfully harnessed the power of volunteer support from the community by drawing upon free or low-cost labor from students, retirees, and other interested citizens. Finding volunteers and interns and motivating and retaining a diverse volunteer population will be addressed in the training courses.
- **Developing and maintaining leadership skills among coalition members :** Planning for the future of your organization, motivating key individuals, and delegating takes leadership skills. Clean Cities will offer training to coordinators, board members, and working group chairs to help them learn how to build trust within their organizations and award coalition members who step up as leaders.
- **Developing long-range plans for financial sustainability:** Long range financial planning is an essential ingredient in any sustainable organization. DOE Clean Cities will focus training provided on diversifying revenue streams among donor resources and nonprofit budgeting.

Building Sustainable Coalitions Strategy II – Educate state and local policy decision makers about the benefits of alternative fuels and vehicles

Adequate state and local incentives and other policies are critical to develop local AFV markets. State and local policy makers must understand alternative fuel and AFV issues and benefits. DOE Clean Cities will provide training using case studies and lessons learned to help coalitions develop educational outreach plans for legislators and incentive programs. This training will be offered in all six regions during 2001-2002.

Building Sustainable Coalitions Strategy III – Develop markets for alternative fuels

DOE offers a new series of market development workshops for newly designated coalitions that emphasize ways to increase coalition effectiveness. Participants learn how to implement a plan to strengthen their market development goals. An “Ideal Clean Cities” checklist highlights critical performance areas for Clean Cities coalitions of various sizes and characteristics. Workshop participants evaluate organizational structures, stakeholder recruitment tactics, funding plans, outreach activities, legislation, vehicles and fuels, niche markets, and integration with air quality initiatives. The workshops also help coalition stakeholders examine barriers to their goals and cooperatively formulate a work plan. The trainers follow up with each participating city to make sure the plan is implemented or help stakeholders change the plan if needed. In addition, the Tiger Teams and related products will also facilitate the development of markets (see p. 5-6).

Products and Tools for Building Sustainable Coalitions

Building Fleet Customer Prospects

- **Preferred Fleets Database – identifying local fleet prospects:** DOE offers designated coalitions an electronic fleet identification database tailored to their specific service area. Seventy-nine Preferred Fleet Databases identifying more than 11,500 fleets have been created and distributed. DOE plans to continue updating fleet information as needed and provide databases to all new designated Clean Cities coalitions. Call your DOE Regional Clean Cities manager for more information.
- **Advancing the AFV Choice Events:** DOE continues to support Advancing the AFV Choice events, particularly those for niche activity center fleets. Coalitions can apply for and receive up to \$2,000 per workshop; the Clean Cities Hotline can provide educational and media materials for event participants and DOE regional Clean Cities managers can assist in identifying potential participants. More than 70 events were held in 1999 and 2000 (see Niche Market section for more details).
- **Tiger Teams:** (See Niche Market section for more details).

Outreach and Communications for Clean Cities Coalitions

- **Web-based information:** The Clean Cities Program collects resources that are useful to the alternative fuels community when developing AFV projects and building refueling infrastructure – 670 publications are now available on the Web, at <http://www.afdc.doe.gov/resources.html>. DOE and laboratory research programs provide a wealth of information on such topics as vehicle

performance, emissions, and vehicle case studies. As mentioned in the Niche Market Section, the Clean Cities Program has assembled a “Fleet Buyer’s Guide” on its Web site that includes information that fleets need to comply with EPACT AFV acquisition mandates, as well as a database and mapping applications for alternative fuel refueling stations and information about available original equipment manufactured AFVs. In addition, the Clean Cities Web site offers a database of state laws and incentives pertaining to alternative fuels and AFVs. The number of hits on each page of the Clean Cities Web site evidences their popularity—for example, in September 2000, the Clean Cities Web site received 140,000 hits while the Fleet Buyer’s Guide site received 270,000 hits. The Clean Cities Web site also features a threaded discussion board with which Clean Cities coordinators and national program staff can interact and discuss solutions to challenges. The Clean Cities Program is developing a Web-based tool box that will be accessible only to Clean Cities coordinators. It will include tips for working with the media, developing presentations, accessing funding opportunities, gaining useful contacts and information, and jumping into the driver’s seat—information for new coordinators.

- **Clean Cities Hotline**: Since its inception in 1993, the Clean Cities Hotline (800-CCITIES) has received 12,000 calls from people seeking program information including how to become a designated Clean City, how to obtain reports and documents, and how to register for the National Clean Cities Conference, as well as general alternative fuels information. The Hotline has been a resource for many coalitions needing information quickly or access to various resources.
- **Publications**: DOE produces a quarterly publication, *Alternative Fuel News (AFN)*, which is distributed to anyone interested in the Clean Cities Program and alternative fuels. AFN features articles about alternative fuel and AFV successes; research and development; industry and government news, such as new laws and incentives; the latest resources; and upcoming conferences and events. In addition, Clean Cities fact sheets/case studies (see niche markets section), and other brochures and information packages can be ordered through the hotline or downloaded from the Clean Cities Web site.
- **Clean Cities Handbook**: In fiscal year 2001, the Clean Cities Program created a complete library of Clean Cities products for coordinators. This handbook gives new and long-term coordinators a complete set of program publications that can be ordered from the Hotline for events and meetings with key customers.

Conferences and Meetings

- **National conference**: DOE hosts an annual National Clean Cities Conference. The agenda and events provide insight and education to nearly 1,000 Clean Cities stakeholders and encourage information sharing about project successes and new technology for vehicles and infrastructure.
- **Regional meetings**: Clean Cities coordinators are invited to attend smaller Clean Cities meetings with 30-40 of their peers in their region. Regional meetings often feature workshops on topics such as grant writing and fundraising. The smaller group environment promotes more interactive participation and allows time for hands-on problem solving activities.

Grants and Funding Assistance

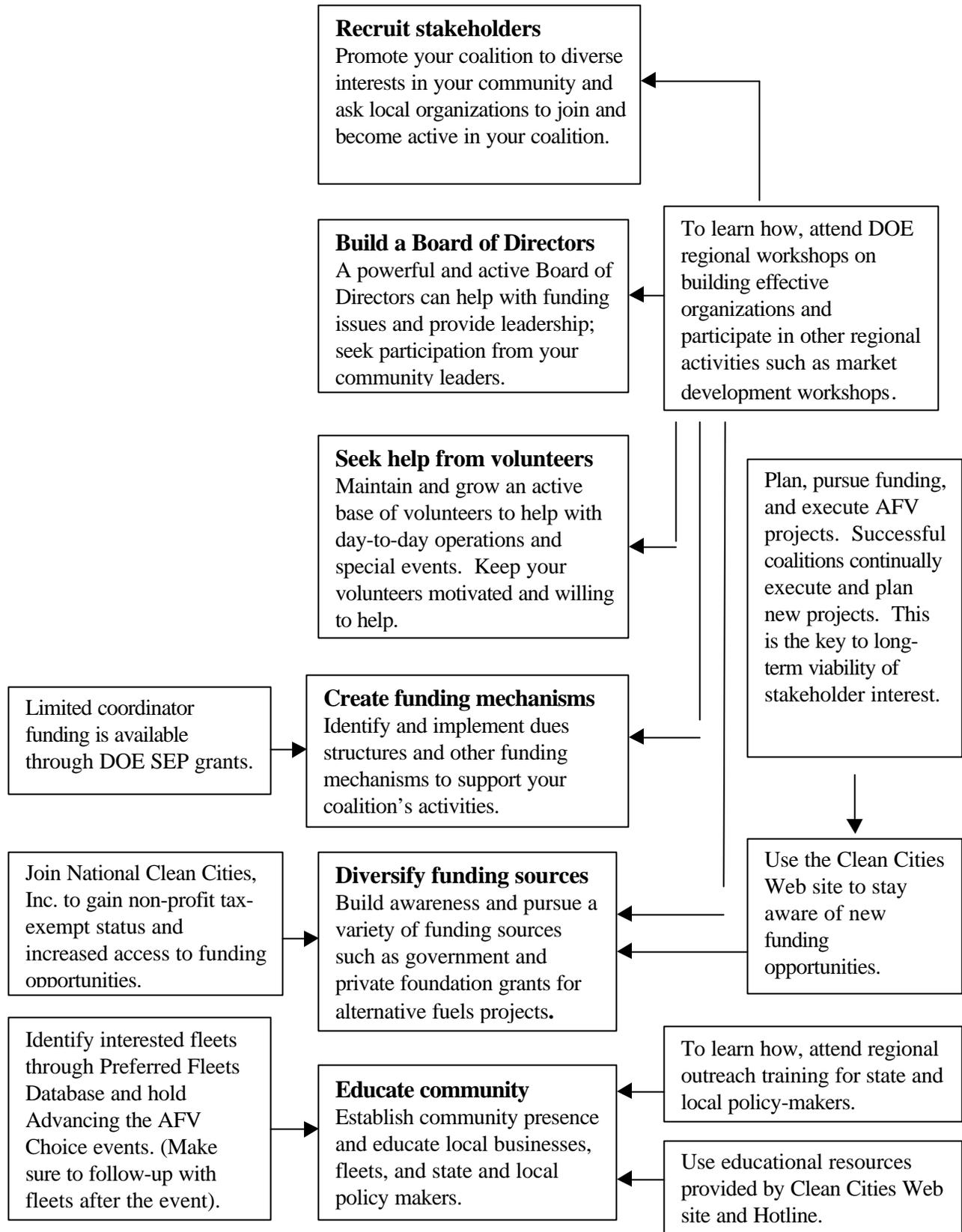
- **Funding for Clean Cities coordinators through DOE State Energy Program/Special Projects (SEP)**: DOE Clean Cities has awarded \$13 million to Clean Cities coalitions in 38 states

through 168 separate SEP grants. In fiscal year 2000, \$3.8 million was competitively awarded for 54 Clean Cities projects. Stakeholders added \$23 million in matching funds; most of the money was used to purchase AFVs and build refueling infrastructure. DOE's Clean Cities Program is strongly committed to providing SEP funds. In recent years, 60% of Clean Cities funding has been dedicated to coalition activities through grants, rebates, and other types of direct funding. While hardware is the highest priority, funding is also available for coordinator positions. In 2001, DOE will distribute a minimum of \$3.8 million to Clean Cities coalitions for projects that support niche market development, including local governments, school buses, and infrastructure. Up to twenty full- and part-time coordinators' positions will be funded—and must be matched with a 50% cost share. In addition, SEP projects will include training development for specific niche market applications.

- **AFV rebates:** In 2001, DOE will award \$750,000 in rebates to coalitions for light-duty AFV purchases.
- **Grant-writing training:** Funding from outside sources is critical to coalition sustainability and success depends on funding from outside sources. Although some coordinators have nonprofit grant-writing experience, many others do not. DOE hired a grant-writing instructor to conduct one-day workshops called, "Grant Writing: Writing Winning Proposals," which will continue to be held during Clean Cities regional meetings through 2001. Workshop attendees—even trained grant writers—have been pleased with this practical training for a much-needed skill.
- **National Clean Cities, Inc.:** National Clean Cities, Inc. (NCC, Inc.) is a national nonprofit organization—a separate and distinct entity unaffiliated with DOE—dedicated to assisting Clean Cities coalitions promote alternative fuels and AFVs. Coalitions that have incorporated can apply to become chapter members of NCC, Inc. and automatically receive nonprofit, tax-exempt status, which enables them to apply for funding and tax-free donations from private foundations. Other members of NCC, Inc. include corporations, automakers, fuel associations, universities, and other alternative fuel supporters. Coalitions that are chapter members, in addition to receiving nonprofit tax-exempt status, can benefit from other low- or no-cost member services, such as director's and officer's liability insurance and a Web page on NCC, Inc.'s Web site (currently under development). As of December 31, 2000, approximately 20% of designated Clean Cities coalitions were chapter members of NCC, Inc.

NCC, Inc.'s board of directors has adopted several goals to support its chapters, as well as the national Clean Cities Program. Goals include 45 self-sustaining Clean Cities chapters and \$100 million in new funding to support alternative fuel use, vehicle acquisition, the installation of infrastructure, and education and training. NCC, Inc. teaches Clean Cities stakeholders about legislative processes and helps them educate decision makers about the benefits of Clean Cities activities. NCC, Inc. sponsors a one-day event that brings Clean Cities coalition stakeholders to Washington to meet their Congressional Representatives and discuss local Clean Cities activities. NCC, Inc. also sponsors a separate project to develop a national legislative agenda and coordinates legislative support with alternative fuel groups, environmental representatives, and other interested parties. Coalitions interested in becoming chapters can contact Carol Butler, Executive Director, NCC, Inc., at (703) 644-9955 or send an email to nccinc@earthlink.net.

Steps to Make Your Coalition Sustainable



Conclusion

The Clean Cities Program will continue to refine and update its strategies as transportation technologies, market conditions, and government policies evolve. Coalition input is essential to the program's success. Coordinators and stakeholders are encouraged to provide DOE with direct feedback on the strategies detailed in this report or on any other aspects of the Clean Cities Program. Please address any comments to Shelley.Launey@ee.doe.gov, fax to 202-586-1637 or by mail to the following address:

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